January 23, 1998

Mr. E. E. Fitzpatrick
Executive Vice President
Nuclear Generation Group
American Electric Power Company
500 Circle Drive
Buchanan, MI 49107-1395

SUBJECT: NRC FIRE PROTECTION INSPECTION REPORTS 50-315/98002(DRS); 50-316/98002(DRS)

Dear Mr. Fitzpatrick:

On January 9, 1998, the NRC completed an inspection of your fire protection program at the D. C. Cook Nuclear Power Station Units 1 and 2. The enclosed report presents the results of that inspection.

Areas examined within your fire protection program are identified in the report. Within those areas, the inspection consisted of a selective examination of procedures and representative records, interviews with personnel, and observation of activities in progress. The objective of the inspection effort was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. Based on the results of this inspection, no violations of NRC requirements were identified.

Our inspection identified a number of strengths in your fire protection program. For example, fire protection equipment was well maintained and transient combustibles were well controlled. In addition, you were taking effective corrective actions for problems identified during plant self evaluations.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and the enclosure to this letter will be placed in the NRC Public Document Room.

Sincerely,

original signed by J. A. Grobe

John A. Grobe, Director
Division of Reactor Safety

Docket Nos. 50-315; 50-316
License Nos. DPR-58; DPR-74

Enclosure: Inspection Reports 50-315/98002(DRS); 50-316/98002(DRS)

See Attached Distribution

cc w/encl: A. A. Blind Site Vice President
John Sampson, Plant Manager
Richard Whale, Michigan Public
Service Commission
Michigan Department of Environmental Quality

Mr. E. E. Fitzpatrick
Executive Vice President
Nuclear Generation Group
American Electric Power Company
500 Circle Drive
Buchanan, MI 49107-1395

SUBJECT: NRC FIRE PROTECTION INSPECTION REPORTS 50-315/98002(DRS); 50-316/98002(DRS)

Dear Mr. Fitzpatrick:

On January 9, 1998, the NRC completed an inspection of your fire protection program at the D. C. Cook Nuclear Power Station Units 1 and 2. The enclosed report presents the results of that inspection.

Areas examined within your fire protection program are identified in the report. Within those areas, the inspection consisted of a selective examination of procedures and representative records, interviews with personnel, and observation of activities in progress. The objective of the inspection effort was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. Based on the results of this inspection, no violations of NRC requirements were identified.

Our inspection identified a number of strengths in your fire protection program. For example, fire protection equipment was well maintained and transient combustibles were well controlled. In addition, you were taking effective corrective actions for problems identified during plant self evaluations.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and the enclosure to this letter will be placed in the NRC Public Document Room.

Sincerely,

John A. Grobe, Director
Division of Reactor Safety

Docket Nos. 50-315; 50-316
License Nos. DPR-58; DPR-74

Enclosure: Inspection Reports 50-315/98002(DRS); 50-316/98002(DRS)

See Attached Distribution
DOCUMENT NAME: G:DRS\DCC98002.DRS
To receive a copy of this document, indicate in the box: "**C**" = Copy without attachment/enclosure "**E**" = Copy with attachment/enclosure "**N**" = No copy

OFFICE	RIII		RIII		RIII		RIII	
NAME	Chyu:sd		Gardner		Burgess		Grobe	
DATE	06/ /98		06/ /98		06/ /98		06/ /98	

OFFICIAL RECORD COPY

cc w/encl: A. A. Blind Site Vice President
John Sampson, Plant Manager
Richard Whale, Michigan Public
Service Commission
Michigan Department of Environmental Quality

Distribution

Docket File w/encl	RIII PRR w/encl	RIII Enf. Coordinator w/encl
PUBLIC IE-01 w/encl	SRI, D. C. Cook w/encl	TSS w/encl
LPM, NRR w/encl	J. L. Caldwell, RIII w/encl	DOCDESK w/encl
DRP w/encl	A. B. Beach, RIII w/encl	CAA1 w/encl
DRS w/encl		

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-315; 50-316
License Nos:	DPR-58; DPR-74
Report Nos:	50-315/98002(DRS); 50-316/98002(DRS)
Licensee:	Indiana Michigan Power Company
Facility:	Donald C. Cook Nuclear Plant, Units 1 & 2
Location:	1 Cook Place Bridgman, MI 49106
Dates:	January 5-9, 1998
Inspectors:	Doris Chyu, Reactor Engineer
Approved by:	Ronald Gardner, Chief, Engineering Specialists Branch 2 Division of Reactor Safety

EXECUTIVE SUMMARY

D. C. Cook Nuclear Plant, Units 1 & 2
NRC Inspection Reports 50-315/98002; 50-316/98002

This inspection reviewed the fire protection program, an aspect of Plant Support. This was an announced inspection conducted by one regional inspector. The following strengths and weaknesses were identified:

- The corrective actions taken to resolve problems noted during welding, burning and grinding activities appeared to be adequate and were driven by self evaluations. (Sections F1 and F7)

- Material conditions of the fire protection equipment appeared to be good. Minimal amounts of combustible and impairments were noted in the plant. (Section F2)

- The licensee was proactive in performing 100 percent destructive testings of gap seals. (Section F3)

- The performance of the observed fire drill was good with two weaknesses. The area to the equipment lockers of the brigade members was partially obstructed and the brigade leader did not dispatch another person as a communication link when encountering radio problems. (Section F4)

- The training provided to the fire brigade appeared to be adequate. The annual physical examinations were kept up-to-date. (Section F5)

- The self evaluations performed by the plant protection department were good. Effective corrective actions were taken to resolve identified problems. (Section F7)

Report Details

IV. Plant Support

F1 Control of Fire Protection Activities

a. Inspection Scope (64704)

The inspector reviewed the fire reports from June 1995 to December 1997 and discussed the corrective actions taken to improve the control of welding, grinding, and burning (WBG) activities in the plant. During the above period, there were 14 fire reports of which five were associated with WBG activities.

b. Observations and Findings

In 1996, there were 743 WBG permits issued which resulted in 2 plant fires. As a result of issues identified during a June 1996 plant protection self evaluation regarding WBG permit program compliance, the licensee stopped all WBG activities on the turbine deck. Before suspended work activity was restarted, the requirement to keep affected areas clean and clear of combustible material within a 35-foot radius of the job site was re-communicated to plant personnel.

In 1997, there were 876 WBG permits issued which resulted in three plant fires. During the 1997 Unit 1 and Unit 2 refueling outages, security officers were assigned an additional duty to observe WBG activities in progress. A list of applicable permits for that day was given to the officers. As they encountered WBG activities in the field, the officers would ensure that such activities included appropriate actions to maintain affected areas free from potential combustible materials.

In October 1997, plant protection personnel completed Self Evaluation Report PPFP97-03 on WBG procedural compliance. Because of this evaluation, PMI-2270, “Fire Protection,” was revised to include the signature of the production job supervisor to ensure that the conditions of the WBG permit were met before the start of the job.

c. Conclusions

The inspector considered the corrective actions taken in 1996 and 1997 to be adequate.

F2 Status of Fire Protection Facilities and Equipment

a Inspection scope (64704)

The inspector toured the turbine and auxiliary buildings, and new fire pump building to observe the adequacy and control of combustibles, dampers, fire and high energy line break (HELB) doors, hose stations, detection equipment, extinguishers, sprinkler systems, halon systems, cardox system, emergency lights, and fire pumps.

b. Observations and Findings

Minimal amounts of combustible material were noted in the plant. The fire protection supervisor stated that personnel do not inform the fire protection department before moving potential combustible materials into a fire area. However, fire protection technicians would tour the plant under the designated frequency to ensure that the materials in the plant do not exceed the combustible loading requirement for that fire area. If the combustible materials were to exceed the limit, then compensatory actions would be implemented.

The inspector noted that the material condition of most fire protection equipment was good. In addition, fire protection equipment, including emergency lighting aiming targets were appropriately labeled to support easy identification. There were several open fire and HELB doors with fusible links installed on the hinges. These doors were considered operable because the fusible links would melt in case of a fire. The inspector did not note any inoperable fire doors and the fire protection supervisor attributed the low number of inoperable fire doors to an onsite locksmith. The number of plant fire impairments was considered low.

c. Conclusion

During this inspection period, minimal amounts of combustible material were noted in the plant. The equipment was well labeled, especially the aiming targets of Appendix R emergency lights. The material condition of most fire protection equipment appeared to be good. The plant was clean and housekeeping was good.

F3 Fire Protection Procedures and Documentation

a. Inspection Scope (64704)

The inspectors reviewed the surveillance procedures for testing fire seals and Appendix R emergency lights. Interviews with personnel were conducted to determine how testing was being tracked. In addition, the inspector sampled two fire seals to ensure that they were installed according to approved specifications.

b. Observations and Findings

As documented in Inspection Report 50-315/316-94012, untreated Styrofoam was identified by the licensee in several gap seals. The Styrofoam was used to fill initial concrete gaps between the buildings. However, a number of seals were never fire-treated as required. Initially, the licensee destructively tested only 10 percent of the gap seals. The testing population was increased from 20 to 30, and eventually to 100 percent of the gap seals. The licensee had completed 100 percent destructive testings of all 490 gap seals and identified 106 seals were not properly fire treated. The repairs were effected under the approved specifications.

In 1991, the licensee completed a penetration seal study in response to IN 88-04, “Inadequate Qualification and Documentation of Fire Barrier Penetration Seals.” During this inspection period, the inspector sampled two penetration seals, W9628 and W9765, to ensure the design specification was tested and approved. These two seals were not initially evaluated in the 1991 seal study. After further research, the fire protection engineer was able to match the penetration seals to existing generic fire seal designs contained in the 1991 seal study.

The inspector also reviewed the Appendix R emergency lighting surveillance program. Surveillance procedure 12IHP5030.EMP.010, "Emergency Battery Light Units," Revision 4, included appropriate acceptance criteria to ensure that emergency lights were adequately aimed and the post-discharge final battery voltage was acceptable. The acceptance criterion of final voltage was recently added in the procedure because of a self evaluation performed by contractors (Section F7).

c. Conclusion

The programs for fire seals and Appendix R emergency lights appeared to be adequate. The surveillance procedure for emergency lights was improved based on a recently completed self evaluation.

F4 Fire Protection Staff Knowledge and Performance

a. Inspection Scope (64704)

On January 6, 1997, the inspector observed a fire drill in the Unit 2 charging pump room and the subsequent drill critique meeting.

b. Observations and Findings

The fire brigade personnel arrived at their equipment lockers in the turbine building within two minutes of the announcement. However, the inspector observed that materials stored around the locker area partially obstructed the access to the lockers. Six brigade members (normally five) responded in a timely manner to the simulated fire with appropriate fire fighting gear and completed dressing for entering the space. The operations and radiation protection personnel also responded to the area. Four brigade members formed double hose teams demonstrating the simulated use of water to fight the fire. During the initial entry to the area, two brigade members could not use the radios effectively due to the background noise. Therefore, there was no communication from the affected area to the command post outside the room and the control room. The brigade members had to exit the room to give an update of the situation inside the room. The licensee stated that the radios had been a known problem. The inspector and the licensee agreed that the brigade leader should have sent another brigade member into the room to serve as a communication link. The inspector considered that this expectation should have been given to the brigade leader earlier during previously encountered communication problems. The inspector observed the critique after the fire drill. The brigade members freely gave their comments on areas of improvement and problems noted during the drill. The licensee issued two condition reports for the drill weaknesses.

The inspector reviewed 24 critique reports and determined that the two weaknesses noted in the above drill also occurred in the past.

c. Conclusion

The inspector considered the performance of the drill to be good with two weaknesses needing improvement. The first weakness was the area around the equipment lockers of the brigade members was partially obstructed. The second weakness was the brigade leader did not dispatch another member to enter the area when communication on the radios was inadequate due to background noise.

F5 Fire Protection Staff Training and Qualification

The brigade members consisted of 14 fire technicians and 26 fire responders from the security department. All personnel from the security department were trained for fire watch duty. In addition to the initial training for new brigade members, the licensee also conducted quarterly and annual training. In 1996 and 1997, the licensee sent most of the 40 brigade members to an offsite fire school for annual training. The remaining personnel received onsite annual training. In both cases, the students were required to extinguish exterior and interior fires using actual equipment. Every brigade member also received leadership training; therefore, every brigade member was qualified to be a brigade leader in responding to a fire. The inspector considered the training provided to be adequate.

The inspector also reviewed the due dates of the annual physical examinations for fire technicians. The records were kept up-to-date.

F7 Quality Assurance in Fire Protection Activities

a. Inspection Scope (64704)

The inspector reviewed quality assurance audit reports for the fire protection program, offsite contractor audit reports, and the departmental self evaluation reports.

b. Observations and Findings

The inspector reviewed quality assurance department Audit Reports QA-95-20/NSDRC231, QA-96-23/NSDRC 238, and PA-97-30/NSDRC 249. These audits were performed in concert with offsite personnel and contained good findings and recommendations.

The plant protection manager also had initiated departmental self evaluations. The scope of each self evaluation was small and lasted about one day. From May to December 1997, there were 21 self evaluations performed that covered a wide range of fire protection activities. During these evaluations, a designated individual from the plant protection department would observe a randomly selected fire protection activity and provide a report and recommendations to the plant protection manager. Selected recommendations to improve the fire protection activities were tracked by the manager who would assign due dates to each item. This tracking mechanism was unique to the plant protection department. The inspector reviewed 21 self evaluation reports and the recommendations tracked by the manager. Several reports had good findings and recommendations. The departmental self evaluations appeared proactive and effective.

In addition, other self evaluations were completed by contractors. In 1996, a self evaluation was performed on WBG activities. In addition, a self evaluation of fire protection design basis, Report No. PPFP-97-23, was completed on December 31, 1997. As a result of this evaluation, the licensee issued 16 condition reports of which a number included excellent technical findings concerning the design basis documents. One of the findings prompted the revision of an emergency light surveillance procedure to include a more explicit acceptance criterion (Section F3).

c. Conclusion

The inspector considered the quality assurance and self evaluation activities for the fire

protection program to be proactive and effective. The personnel in the plant protection department appeared to be receptive of the audit or evaluation results and willing to take actions based on the results. The results and recommendations of these evaluations or audits were implemented and reflected in the program elements. Two examples were adding production supervisors' signature on the WBG permit (Section F1) and adding final battery voltage as an acceptance criterion in the emergency light surveillance procedure (Section F3).

F8 Miscellaneous Fire Protection Issues

F8.1 (Close) Violation 50-315/316-94012-01: Failure to remove combustible material with 35 feet of WBG activities. The licensee retrained personnel and included the WBG activity as a pre-outage discussion to personnel. Fire brigades and security officers were also trained to ensure compliance with the procedure. Detail of corrective actions taken is documented in Section F1. This item is closed.

V. Management Meetings

XI Exit Meeting Summary

On January 9, 1998, the inspectors presented the inspection results to licensee management. The licensee acknowledged the findings presented.

The inspector asked the licensee whether any material examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Sampson, Plant Manager
M. Depuydt, Nuclear Licensing
M. Greendonner, Fire Protection Supervisor
J. Grier, Fire Protection Engineer
P. Jacques, Plant Protection
M. Kennedy, Performance Assurance
P. Russell, Plant Protection Manager

U.S. Nuclear Regulatory Commission

B. Bartlett, Senior Resident Inspector
B. Fuller, Resident Inspector

INSPECTION PROCEDURES USED

IP 64704: Fire Protection Program

ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

50-315/316-94012-01	VIO	Failure to remove combustible materials 35 feet away from the WBG site

LIST OF ACRONYMS USED

CFR	Code of Federal Regulation
HELB	High energy line break
IP	Inspection Procedure
VIO	Violation
WBG	Welding, burning, and grinding